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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,483	08/16/2001	Jun Takinosawa	57457-021	1012

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EXAMINER	
ZHENG, EVA Y	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/930,483	TAKINOSAWA, JUN	
	Examiner	Art Unit	
	Eva Yi Zheng	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *17-22* is/are allowed.

6)☒ Claim(s) *1-3,5,9,10 and 23-25* is/are rejected.

7)☒ Claim(s) *4, 6-8, 11-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 August 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/16/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "device 10" and "data bus 21" are not labeled or shown in Fig.1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because block: "USB LINK Layer" of Fig. 1 lack number label. It should be labeled as number 16. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief

description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it is lengthy and not concise. Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities: on page 13, line 18, "BIST analyzer circuit 19" should be changed to -- BIST analyzer circuit 49 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-3, 5 and 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Cranford, Jr. et al. (US 6,298,458 B1).

a) Regarding claim 1, Cranford, Jr. et al. disclose a data transceiver capable of transmitting and receiving data, said data transceiver comprising:

a self-test data generator for generating test data (175 in Fig. 4; Col 4, L29-32);

a transmitter section coupled to said self-test data generator, said transmitter section operable for receiving said test data and processing said test data in the same manner as any other data to be transmitted by said transmitter section (110b in Fig. 4);

a receiver section coupled to said transmitter section, said receiver section operable for receiving said test data output by said transmitter section, and for processing said test data in the same manner as any other data to be received by said receiver section (150 in Fig. 4);

a test data analyzer coupled to said receiver, said test data analyzer operative for verifying the accuracy of said test data output by said receiver, and outputting an error signal if there is an error in said test data (205 in Fig. 4; Col 3, L 31-47);

wherein said self-test data generator and said test data analyzer are independently controllable (Fig. 5; Col 5, L 19-51 and Col 5, L52-63).

b) Regarding claim 2, Cranford, Jr. et al. disclose the data transceiver of claim 1, wherein said independent control of said self-test data generator and said test data analyzer allows for one of the self-test data generator and said test data analyzer to be enabled, while the other is disabled (220, 219 and 223 in Fig. 5 and Col 4, L60-62).

c) Regarding claim 3, Cranford, Jr. et al. disclose the data transceiver of claim 1, wherein:

said self-test data generator generates test data in a digital word format having a predetermined number of bits (Col 5, L19-51);

said transmitter section receiving said test data in said digital word format, converting said test data into a serial data format, and transmitting said test data as serial data (Col 5, L19-51);

said receiver section receiving said test data from said transmitter section in said serial format, converting said test data into a digital word format, and outputting said test data as a digital word (Col 5, L 19-23); and

said test data analyzer receiving said test data from said receiver section in a digital word format (Col 5, L52 - Col 6, L35).

d) Regarding claim 5, Cranford, Jr. et al. the data transceiver of claim 1, further comprising a multiplexer coupled to said self-test data generator and said transmitter section, said multiplexer having a first input coupled to an output of said self-test generator via a data bus, a second input coupled to an external data bus, and a first

output coupled to an input of said transmitter section, said multiplexer operative for coupling either the output of said self-test data generator or the external bus to said input of said transmitter section (as shown in block 130 in Fig. 4).

e) Regarding claim 23, Cranford, Jr. et al disclose a data transceiver capable of transmitting and receiving data, said data transceiver comprising:

a self-test data generator for generating test data comprising a digital word, said self-test data generator being programmable so as to allow selection of a data value of said test data , said data value being input into said self-test generator via a data bus coupled to said self-test data generator (175 in Fig. 4; Col 4, L29-32);

a transmitter section coupled to said self-test data generator, said transmitter section operable for receiving said test data and processing said test data in the same manner as any other data to be transmitted by said transmitter section (Col 5, L19-51);

a receiver section coupled to said transmitter section, said receiver section operable for receiving said test data output by said transmitter section, and for processing said test data in the same manner as any other data to be received by said receiver section (Col 5, L 19-23);

a test data analyzer coupled to said receiver, said test data analyzer operative for verifying the accuracy of said test data output by said receiver, and outputting an error signal if there is an error in said test data, said test data analyzer being programmable so as to allow selection of a data value, initial data value being input into said test data analyzer via an external bus coupled to said test data analyzer (Fig. 4; Col 3, L 31-47; Col 5, L52 - Col 6, L35).

f) Regarding claim 24, Cranford, Jr. et al disclose the data transceiver of claim 23, wherein said self-test data generator and said test data analyzer are independently controllable (Fig. 5; Col 5, L 19-51 and Col 5, L52-63).

g) Regarding claim 25, Cranford, Jr. et al disclose the data transceiver of claim 24, wherein said independent control of said self-test data generator and said test data analyzer allows for one of the self-test data generator and said test data analyzer to be enabled, while the other is disabled (220, 219 and 223 in Fig. 5 and Col 4, L60-62).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider (US 6,201,829 B1), applicant admitted prior art (AAPA).

a) Regarding claim 9, Schneider disclose a data transceiver capable of transmitting and receiving data, said data transceiver comprising:

a self-test data generator for generating test data, said self-test data generator comprising a first pseudo-random number generator capable of generating a digital word, said first pseudo-random number generator having a programmable data value (62 in Fig. 5; Col 8, L32-41),

a transmitter section coupled to said self-test data generator, said transmitter section operable for receiving said test data and processing said test data in the same manner as any other data to be transmitted by said transmitter section (40 in Fig. 5);

a receiver section coupled to said transmitter section, said receiver section operable for receiving said test data output by said transmitter section, and for processing said test data in the same manner as any other data to be received by said receiver section (48 in Fig. 5);

a test data analyzer coupled to said receiver, said test data analyzer operative for verifying the accuracy of said test data output by said receiver, and outputting an error signal if there is an error in said test data, said test data analyzer comprising a second pseudo-random number generator capable of generating a digital word, said second pseudo-random number generator having a programmable data value, said data value being input into said second pseudo random number generator via an external bus coupled to said test data analyzer (61 in Fig. 5; Col 8, L60 – Col 9, L6).

Schneider discloses all the subjects above except for the specific teaching of the data values being input into the pseudo-random generator via an external bus couple to the self-test data generator.

However, it is well known that there are many bus lines going through the pseudo-random generator and data are transmitted through bus lines. Therefore, it is obvious to one of ordinary skill in the art to recognize that buses are either internally or externally connected to the pseudo-random number generator and by doing so data or signals are transmitted and received to the self-tester and analyzer.

b) Regarding claim 10, Schneider disclose the data transceiver of claim 9, wherein said first pseudo random number generator and the second pseudo random number generator are the same (abstract).

Allowable Subject Matter

10. Claims 4, 6-8, 11-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 17-22 are allowed.

12. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a data transceiver comprising a built-in self test generator for generating test data, wherein the built-in self test generator comprise a first pseudo-random number generator for generating a digital word and a programmable initial data value input through an external bus. A transmitter for receiving test data. A receiver for receiving test data from the transmitter. And a test data analyzer comprising a second pseudo-random number generator for generating digital word and programmable data value input through an external bus. The test data analyzer is coupled to receiver for verifying the accuracy of test data, and output an error signal if there's an error. The built-in self test generator and test data analyzer are independently controlled.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Yi EZheng whose telephone number is (571) 272-3049. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-879-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Eva Yi Zheng
Examiner
Art Unit 2634

December 23, 2004

SHUWANG LIU
PRIMARY EXAMINER